

REMARKS

Claims 1 through 37 are pending in this application. Applicants have amended claim 32 to correct the obvious typographical error noted by the Examiner on page 2 of the Office Action.

Claim Rejections Under 35 USC 103

Applicant respectfully requests reconsideration of the rejection of claims 1, 2, 6-10, 12-31 and 37 as being unpatentable over Dunn et al., U.S. Patent No. 5,200,334, in view of Reetz et al., U.S. Patent No 6,080,402.

Claim 1 is directed to a porous glass composite material comprising a gel that comprises water and a polymeric network comprising an alkoxosilane derivative, the network having a group of alterable charge, a hydrophobic group and a hydrophilic group. Claim 1 thus requires a polymeric network that comprises an alkoxosilane derivative. This network includes all three of a group of alterable charge, a hydrophobic group and a hydrophilic group. These three groups allow the gel to respond to environmental changes, which may include changes in temperature, pH, solvent, salt metal ions, chemical species, mechanical pressure, electrical potential, light, ultrasonic vibration, etc.

In contrast, Dunn et al. discloses traditional alkoxodisilanes, which do not comprise the claimed combination of a group of alterable charge, a hydrophobic group and a hydrophilic group. Reetz et al. does not make up these deficiencies. In fact it is still unclear to applicant where the group of alterable charge, a hydrophobic group and a hydrophilic group in the network come from the claimed combination. Even if Reetz et

al. taught these groups in the precursor alkoxodisilanes, the Reetz et al. does not teach a network with these groups as required by the claims.

In the declaration of Dr. Dave submitted in the parent application (both of Dr. Dave's prior applications are attached hereto) the alkyl group of the alkoxy drops off as the alkoxodisilane hydrolyzes to form the derivative in the Reetz et al. Thus, Reetz et al. does not disclose a hydrophilic group in the network of a glass composite material as required by claim 1. Reetz et al. confirms Dr. Dave's statements, stating at col. 1, line 64, to col. 2, line 17 that the silicon compounds are hydrolyzed. See, also, col. 4, lines 4-7. As is known to a person of ordinary skill in the art, conventional alkoxodisilane precursors contain alkoxy groups, but these are lost upon the hydrolysis and condensation reactions to form the derivatives. Thus, Reetz et al. does not teach a network of alkoxodisilane derivatives that includes a hydrophilic group in the network.

For at least these reasons, claim 1 (and claims 2-37 which depend directly or indirectly from claim 1) would not have been obvious to a person of ordinary skill in the art, and thus the rejection of these claims should be withdrawn.

Double Patenting Rejection


In response to the obviousness-type double patenting rejection over U.S. Patent No. 6,756,217, applicant is submitting a terminal disclaimer herewith.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office

Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7505.

Respectfully submitted,


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